STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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April 6, 2005

Mr. Orlando Monaco
Department of Navy
Engineering Field Activity-Northeast
Code 1823/OM
10 Industrial Highway, Mailstop 82
Lester, PA 19113-2090

Re: Site 9, Monitoring Event 25-September 2004
Naval Air Station, Brunsick, Maine

Dear Mr. Monaco:

The Maine Department of Environmental Protection (MEDEP) has reviewed the draft "Monitoring Event 25 Report, September 2004 for Site 9", dated January 2005, prepared by Environmental Chemical Corporation. Based on that review MEDEP has the following comments and issues.

General Comments

1. MEDEP's review found a number of contradictions in assessments of the data: details are provided under Specific Comments. (NR)

Specific Comments

2. Section 1.1, Introduction, p. 1-1, 2nd paragraph:

   "Table 1 is a summary of the LTMP at Site 9."

   The title of the table is "Summary of Long-Term Monitoring Program at Site 9 for Monitoring Event 25". The list of acronyms on page iii defines LTMP as "Long-Term Monitoring Plan", which is consistent with historical usage by the Navy and previously released reports. For clarity consistency please use the correct title for Table 1. (ED)

3. Section 1.3, Groundwater Monitoring, Sampling, and Analysis, p. 1-2, 1st paragraph:

   "... and the addition of MW-NASB-021 to the monitoring well network."

   Please provide a brief explanation in the text as to the circumstances resulting in MW-NASB-021 being added to the sampling program at Site 9. (ED)

4. Section 1.3, Groundwater Monitoring, Sampling, and Analysis, p. 1-2, 3rd paragraph:

   "A YSI 600XLM water quality meter was utilized to collect water quality indicator data downhole at low-flow and passive diffusion bag sampling locations."

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The reading of field parameter data within the well (downhole) during low-flow sampling appears to be a newly invoked procedure, replacing the prior readings of parameters within flow-through cells utilized at the ground surface. Please confirm if this monitoring event (ME-25) is the first use of the downhole procedure for low-flow sampling at Site 9. If it is, this change must be described in this report section. MEDEP believes this change should improve representativeness of actual subsurface groundwater measurements. The date of the change needs to be documented in text and tables. (RR)

5. Section 2.2.2.1, Volatile Organic Compounds, p. 2-2, 1st & 3rd paragraphs:

"The spike in vinyl chloride concentrations, particularly noted at MW-NASB-069, appears to have reached a maximum in 2001, decreasing for the next five monitoring events, and then spiked to 71.4 µg/L for this monitoring event (Figure 4)."

"Concentrations of vinyl chloride have decreased between 2000 and 2004."

These two statements appear to be contradictory. The second statement can be corrected by inserting "spring of" in front of 2004. (ED)

6. Section 2.2.2.1, Volatile Organic Compounds, p. 2-2, 5th paragraph:

"Given this expectation, groundwater monitoring in the current interpreted discharge area (S9-B8/MW-NASB-076) appears to be inadequate."

MEDEP agrees with this assessment. However, the above statement is the opposite as the assessment presented in the first conclusion in Section 3.2, and is obviously incorrect as it also contradicts the bulleted recommendation in Section 3-2, page 3-2. Please bring all three statements into agreement. (ED)

7. Section 2.2.2.1, Volatile Organic Compounds, p. 2-3, 2nd paragraph:

"The new well will be screened deep to assess groundwater conditions above the clay formation. There was no proposed action to replace MW-076 with a deeper screened well."

MEDEP recalls that the regulators endorsed the installation of the deeper screened well at the December 2004 Technical Meeting. It is our understanding that the Navy recognizes the shortcoming of MW-NASB-076, and plans to install a replacement well, but has not yet set a timetable for this work. If this is a correct assumption, the second sentence above needs to be rephrased. (RR & ED)

8. Section 2.2.2.1, Volatile Organic Compounds, Monitoring Well MW-NASB-080, p. 2-4, 4th bullet:

"The dramatic increase is due to the detection of benzene for the first time at a concentration of 13 µg/L, which exceeds both the State MEG and Federal MCL (5 µg/L)."

This finding is potentially very significant, as this monitoring well is located within the buried landfill where surface construction work has recently occurred. It is also along a groundwater flow line that projects upgradient (see Figure 3) into a plume containing GRO and DRO compounds that resulted from past operations at the Naval Exchange. (NEX). The groundwater plume at the NEX has undergone pilot-test remediation over the past several years. Under anaerobic conditions, benzene can travel considerable distances dowgradient. Repeat detections of benzene will be cause for concern. (RR)

9. Section 3.1, Long-Term Monitoring Objectives, p. 3-1, 1st bullet:

"The vinyl chloride plume appears to be stable in size; decreases in size were noted during the last 2 years of sampling, based on long-term monitoring data collected since 1995."

Statements concerning the size of the Site 9 vinyl chloride plume have no basis; particularly for comparison over time, as the Navy has not presented any maps showing the plume boundary of the Site 9 groundwater contamination. Plume concentrations may or may not directly reflect plume size. Furthermore, the plume cannot be called stable, while also said to be decreasing in size during the last two years. This entire topic needs to be eliminated or presented coherently. (RR)

10. Section 3.1, Long-Term Monitoring Objectives, p. 3-1, 2nd bullet:

"These remedial measures appear to be successful in protecting human health and the environment as the overall vinyl chloride plume is stable or decreasing, and..."

Since the plume boundary has not been mapped, the basis for this statement is not clear (see the comment 9 above). VOC concentrations over time are the only measure of plume stability, and the spike in vinyl chloride concentration at MW-NASB-069 (the focal point of the plume) measured for Monitoring Event 25 does not indicate a decreasing plume. The September 2004 concentrations nearly equaled the highest historic concentration of vinyl chloride at this monitoring location. Therefore, the stability of the plume as measured by concentration is also questionable. (RR & ED)

11. Section 3.1, Long-Term Monitoring Objectives, p. 3-2, 1st bullet:

"Vinyl chloride seems to be increasing in the shallow and deep diffusion sample at MW-NASB-069."

The context in which this statement is made is unclear. The data clearly show that vinyl chloride did increase markedly from ME-24 to ME-25, nearly equaling the historic maximum at Site 9. MEDEP suggests the following language: *"Vinyl chloride increased to near the historic maximum concentrations in the shallow and deep diffusion sample at MW-NASB-069."* (ED)

12. Section 3.2, Conclusions and Recommendations, p. 3-2:

In the Conclusion, the following statement is made: "...the extent of the vinyl chloride plume is well delineated (both upgradient and downgradient of Site 9) and no additional monitoring points are required."

Under Recommendations, a contradictory statement occurs: "With the 2004 detection of TCE at the MCL/MEG at S9-B10, the VOC plume is apparently not adequately delineated. In addition, MW-NASB-076 should be replaced with a deeper screen at a location close to S9-B8. Thus, two new monitoring wells should be installed at Site 9."

MEDEP does not agree with the conclusion statement, but does agree with the bullet's recommendation. Please remove the inconsistency. (ED)

13. Section 3.2, Conclusions and Recommendations, p. 3-3, Table:

Under "Recommended Changes", MEDEP agrees with the proposal to replace MW-NASB-072 with a more suitable monitoring well. In regards to MW-NASB-074 and MW-NASB-075, MEDEP's

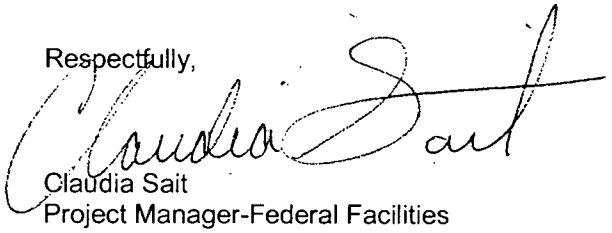
current thinking is that the former should be kept in the network and the latter can be dropped out of the network. Ultimately, all stakeholders should discuss the Navy's proposal as a group, and find a mutually acceptable action. (NR)

14. Figure 5, Total volatile organic compounds and vinyl chloride trends, 1995-2004:

Monitoring well MW-NASB-227 is an important monitoring well that is missing from this figure. Total VOCs of this well are nearly always comprised of the potential parent compounds of vinyl chloride, 1,2-DCE and TCE. While the migration connection between MW-NASB-277 and MW-NASB-069 has not been confirmed, VOCs detected at S9-B6 and S9-B10 may come from the MW-NASB-227 area. Please include this well and use a y-axis scale of 0 to 20 µg/L, allowing the fall 2002 total VOC concentration to peak outside the graph (the presentation format used for MW-NASB-080 in Figure 5). (ED)

Thank you for the opportunity to review this report. If you have any questions or comments please call me at (207) 287-7713 or email me at claudia.b.sait@maine.gov.

Respectfully,



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